

OPIOID OVERDOSE SURVEILLANCE

GEORGIA, 2016



Georgia Department of Public Health (DPH) • Epidemiology Section
dph.georgia.gov/epidemiology





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The purpose of this report is to describe fatal (mortality) and nonfatal (morbidity) **opioid-involved overdoses**, which occurred **in Georgia during 2016**, including **prescription opioids**, and **illicit opioids** such as heroin, fentanyl, and fentanyl analogs. Opioid overdose data were analyzed by the **Georgia Department of Public Health (DPH) Epidemiology Program, Drug Overdose Surveillance Unit**, using Georgia hospital discharge inpatient and emergency department (ED) visit data, and **DPH Vital Records** death data.



KEY FINDINGS

Opioid-involved overdose deaths have been rapidly increasing in Georgia since 2010, driven largely by increased use and misuse of prescription opioids (e.g., **oxycodone** and **hydrocodone**). 📉 **FROM 2010 TO 2016**, the total number of opioid-involved overdose deaths **increased by 117%**, from **426 to 928 deaths**, and the rate increased by **106%**, from **4.3 to 8.9 deaths/100,000 population**. 📉 **BEGINNING IN 2013**, illicit opioids, such as **heroin** and **fentanyl**, drove the sharp increase in opioid-involved overdose deaths.

IN 2016 IN GEORGIA:

- Any **opioid-involved** overdoses accounted for **2,895 ED visits, 2,499 hospitalizations, and 928 deaths**.
- **Heroin-involved** overdoses accounted for **980 ED visits, 322 hospitalizations, and 228 deaths**.
- **Fentanyl-involved** overdoses accounted for **225 deaths**.
- **Persons aged 25-34 years more frequently died** from an opioid-, heroin- or fentanyl-involved overdose, and visited an ED for an opioid-involved overdose than persons of other age categories, yet older persons were more frequently hospitalized because of an opioid-involved overdose.
- **Males aged 25-34 years died** from an opioid-involved overdose more frequently than any other age category, and were **2.2 times** more likely to die from an overdose than females of the same age category.
- **Males were 1.6 times more likely to die** from any opioid-involved overdose, and **4.5 times** more likely to die from a heroin-involved overdose than females. However, females were more frequently hospitalized for an opioid-involved overdose than males.
- **Whites were 4.2 times more likely** to die from an opioid-involved overdose, **2.7 times** more likely to visit an ED for any opioid-involved overdose, and **4.6 times** more likely to visit an ED for a heroin-involved overdose than Blacks.
- The highest numbers of heroin- and opioid-involved overdose deaths, ED visits, and hospitalizations occurred predominantly in urban areas (Atlanta Metropolitan Area, Augusta, Macon, Columbus, and Savannah). However, high rates of opioid overdose-involved ED visits and hospitalizations occurred in both urban and rural areas, particularly in North, South Central, and Southeast Georgia.

FOR MORE INFORMATION:

- County level data and Georgia overdose surveillance reports: <https://dph.georgia.gov/drug-overdose-surveillance-unit>
- Georgia overdose mortality interactive maps and statistics: <https://oasis.state.ga.us/PageDirect.aspx?referer=MortalityDrugOverdoses>
- Prescription Drug Monitoring Program (PDMP) information: GA PDMP Overview and FAQs <https://dph.georgia.gov/pdmp>

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Fatal Drug Overdoses (Mortality), Georgia, 2016

DATA SOURCE

Overdose-related deaths were derived from DPH Vital Records death certificates for all deaths that occurred in Georgia during 2016. Data records are continuously updated (corrected, amended or deleted) as more information becomes available, therefore, reports represent the most current data, and future reports may reflect updated data.

CASE DEFINITIONS

(NOTE: CATEGORIES ARE NOT MUTUALLY EXCLUSIVE, INCLUDES ONLY DRUG OVERDOSE DEATHS CAUSED BY ACUTE POISONING)

Any drug overdose death

May involve any over-the-counter, prescription, or illicit drug

– Deaths with any of the following ICD-10 codes as the underlying cause of death: X40-44, X60-64, X85, Y10-14

Drug overdose death involving any opioid

Involves both prescription opioid pain relievers (e.g., hydrocodone, oxycodone, and morphine), opioids used to treat addiction (e.g., methadone), as well as heroin, opium, and synthetic opioids (e.g., tramadol and fentanyl that may be prescription or illicitly-manufactured)

– Deaths with any of the following ICD-10 codes as any underlying cause of death: X40-44, X60-64, X85, Y10-14

AND

– Any of the following ICD-10 codes as any other listed cause of death: T40.0, T40.1, T40.2, T40.3, T40.4, T40.6

OR

Any cause of death text field contains the following keywords and common misspellings: heroin, fentanyl (and fentanyl analogs), methadone, buprenorphine, butalbital, codeine, eddp, hydrocodone, hydromorphone, levorphanol, meperidine, norbuprenorphine, oxycodone, oxymorphone, tapentadol, tramadol

Drug overdose death involving synthetic opioids other than methadone

Involves synthetic opioids other than methadone (e.g., tramadol and fentanyl that may be prescription or illicitly-manufactured).

Note: polysubstance abuse deaths may also involve methadone or other opioids

– Deaths with any of the following ICD-10 codes as any underlying cause of death: X40-44, X60-64, X85, Y10-14

AND

– The following ICD-10 code as any other listed cause of death: T40.4

OR

Any cause of death text field contains the following keywords and common misspellings: fentanyl (and fentanyl analogs), tramadol

Drug overdose death involving heroin

Involves heroin. Note: polysubstance abuse deaths may also involve other opioids

– Deaths with any of the following ICD-10 codes as any underlying cause of death: X40-44, X60-64, X85, Y10-14

AND

– The following ICD-10 code as any other listed cause of death: T40.1

OR

Any cause of death text field contains the following keywords and common misspellings: fentanyl (and fentanyl analogs), tramadol

Drug overdose death involving fentanyl

Note: polysubstance abuse deaths may also involve other opioids

Any cause of death text field contains the following keywords and common misspellings: fentanyl (and fentanyl analogs)

OTHER DEFINITIONS OR LIMITATIONS

Overdose death county represents the place of injury (where the overdose occurred), when the place of injury field was blank the county of the death certifier was used. Data by county of residence is available at <https://oasis.state.ga.us/oasis/webquery/qryDrugOverdose.aspx>

Rate indicates deaths per 100,000 population using 2016 Census data as the denominator, and all rates are age-adjusted unless age category is presented

Rates for categories with fewer than 5 deaths may not be accurate and are not presented in these data

ICD-10 CODE DESCRIPTION

X40-X44 (accidental poisonings by drugs), X60-X64 (intentional self-poisoning by drugs), X85 (assault by drug poisoning), Y10-Y14 (drug poisoning of undetermined intent), T40.0 (opium), T40.1 (heroin), T40.2 (natural and semisynthetic opioids), T40.3 (methadone), T40.4 (synthetic opioids, other than methadone), T40.6 (other and unspecified narcotics).



Nonfatal Overdoses (Morbidity), Georgia, 2016

DATA SOURCE

Nonfatal overdose counts were derived from Georgia hospital discharge inpatient and ED visit data, and included all ED visits or hospitalizations occurring in a non-Federal acute care hospital in Georgia, among Georgia residents, with a discharge diagnosis indicating acute drug overdose during 2016. Data records are continuously updated (corrected, amended or deleted) as more information becomes available, therefore, reports represent the most current data, and future reports may reflect updated data.

CASE DEFINITIONS (CATEGORIES ARE NOT MUTUALLY EXCLUSIVE)**ED visit or hospitalization involving any drug overdose**

May include any over-the-counter, prescription, or illicit drug

– Any mention of ICD-10CM codes: T36-T50

AND

– 6th character: 1-4, and a 7th character of A or missing

ED visit or hospitalization involving any opioid overdose

Includes prescription opioid pain relievers (e.g., hydrocodone, oxycodone, and morphine), opioids used to treat addiction (e.g., methadone), as well as heroin, opium, and synthetic opioids (e.g., tramadol and fentanyl that may be prescription or illicitly-manufactured)

– Any mention of ICD-10CM codes: T40.0X, T40.1X, T40.2X, T40.3X, T40.4X, T40.60, T40.69

AND

– 6th character: 1-4, and a 7th character of A or missing

ED visit or hospitalization involving a heroin overdose

May include any over-the-counter, prescription, or illicit drug

– Any mention of ICD-10CM code: T40.1X

AND

– 6th character: 1-4, and a 7th character of A or missing

OTHER DEFINITIONS OR LIMITATIONS

County indicates the patient's county of residence

Only Black and White are indicated for race because of incomplete or sparse data on other races and ethnicities

Patients that were admitted through the ED and subsequently hospitalized only appear in the hospital inpatient data

Rate indicates ED visits or hospitalizations per 100,000 persons using 2016 Census data as the denominator, and all rates are age-adjusted unless age category is presented

Rates for categories with fewer than 5 ED visits or hospitalizations may not be accurate and are not presented in these data

ICD-10 CM CODE DESCRIPTION

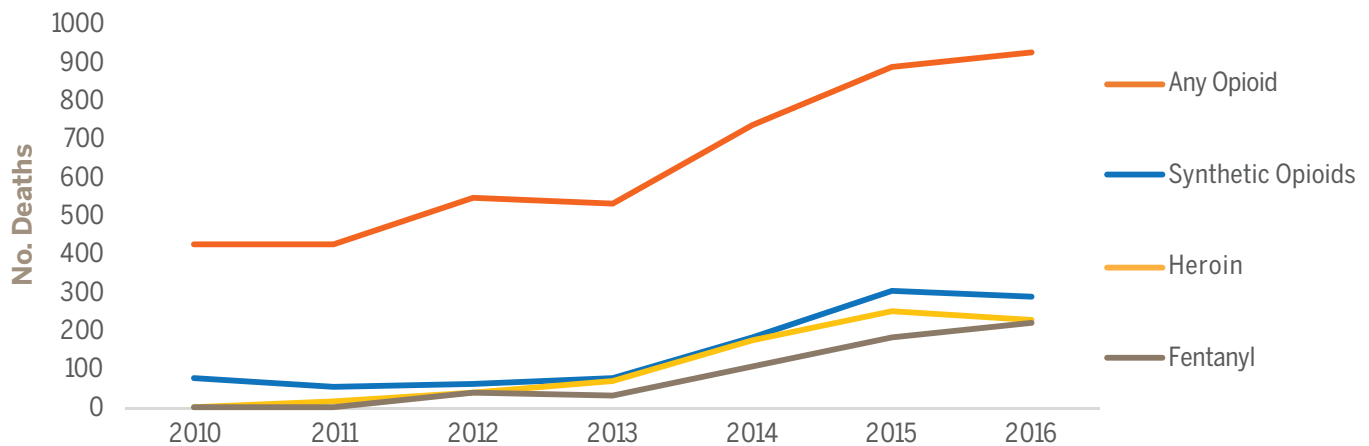
Poisoning by: T36-T50 (range includes all drugs), T40.0X (opium), T40.1X (heroin), T40.2X (other opioids), T40.3X (methadone), T40.4X (synthetic narcotics), T40.60 (unspecified narcotics), T40.69 (other narcotics), 6th Character: 1 (accidental, unintentional), 2 (intentional self-harm), 3 (assault), 4 (undetermined intent), 7th Character: A (initial encounter) or missing



Drug Overdose Deaths (Mortality)

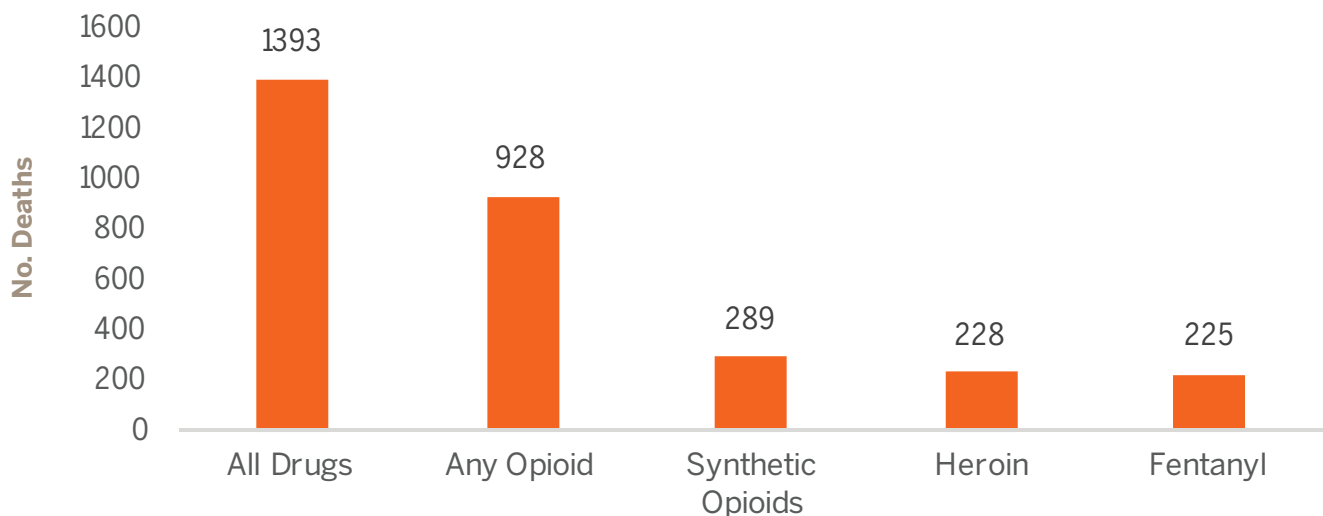
Note: All drugs may include any over-the-counter, prescription, or illicit drug. Any opioid may include prescription or illicit opioids. Categories are not mutually exclusive.

Opioid Overdose Deaths, by Drug Type and Year, Georgia, 2010-2016



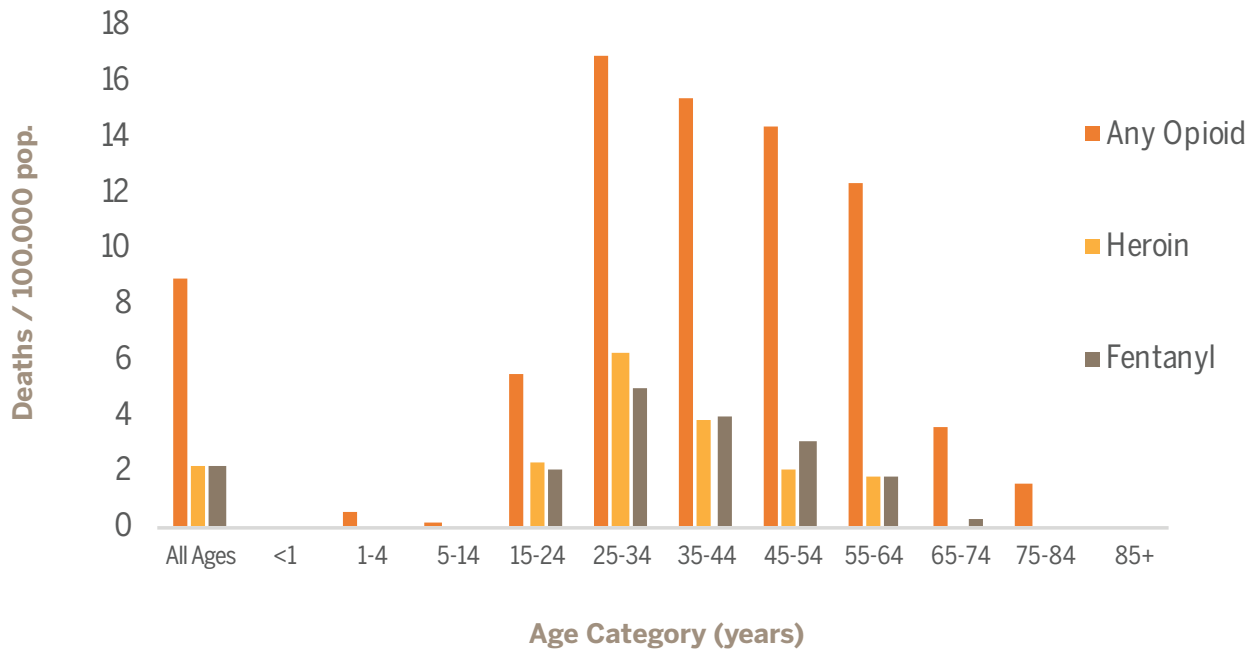
- From 2010 to 2016, the number of opioid-involved overdose deaths increased by 117% in Georgia, from 426 to 928 deaths
- Beginning in 2013, illicit opioids, such as heroin and fentanyl, drove the sharp increase in overall opioid-involved overdose deaths in GA. Note: fentanyl is included in the synthetic opioid category

Overdose Deaths, by Drug Type, Georgia, 2016



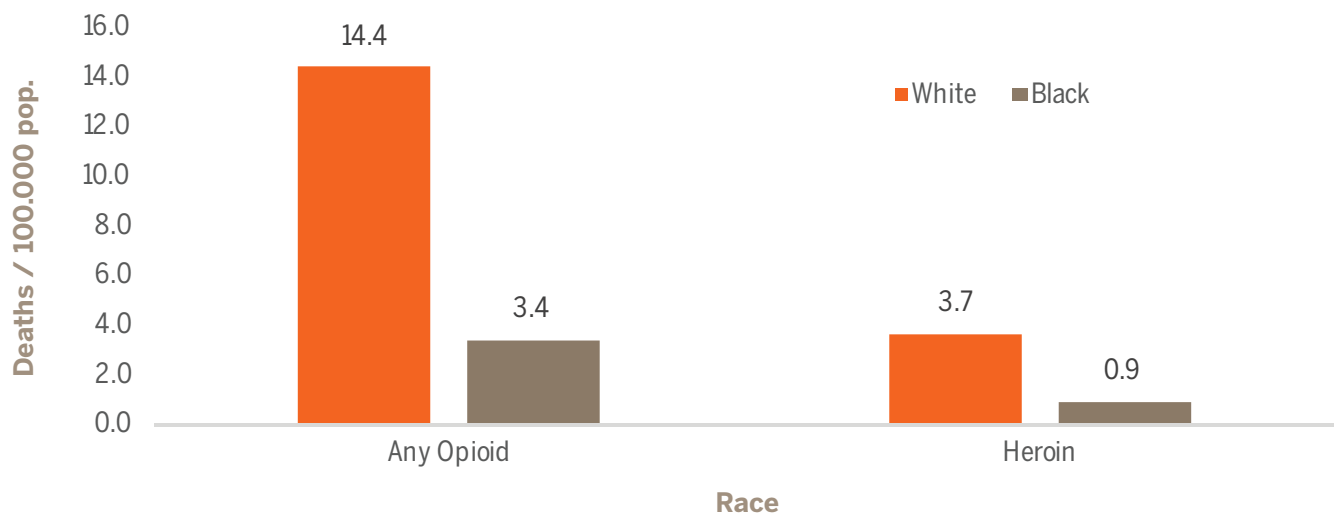
- In 2016 in Georgia, overdose deaths involving fentanyl (225) approached the number of deaths involving heroin (228). Note: fentanyl is included in the synthetic opioid category

Opioid Overdose Death Rates, by Age and Drug Type, Georgia, 2016



- Persons aged 25-34 years died from an opioid-, heroin- or fentanyl-involved overdose more frequently than persons of other age categories

Opioid Overdose Death Rates, by Race and Drug Type, Georgia, 2016

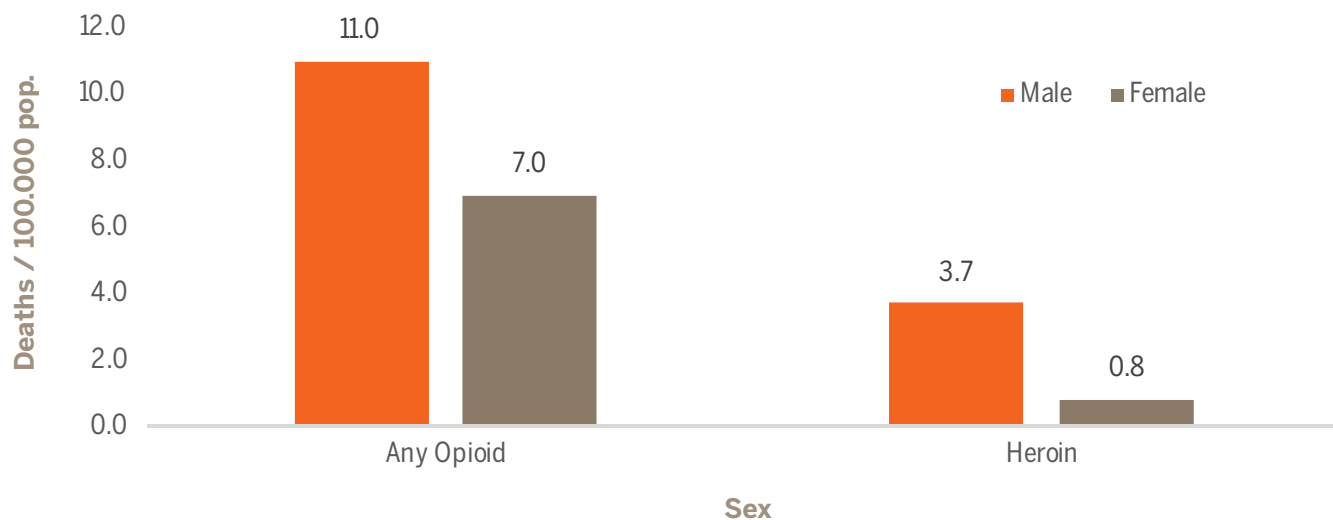


- Whites were 4.2 times more likely to die from an opioid-involved overdose than Blacks



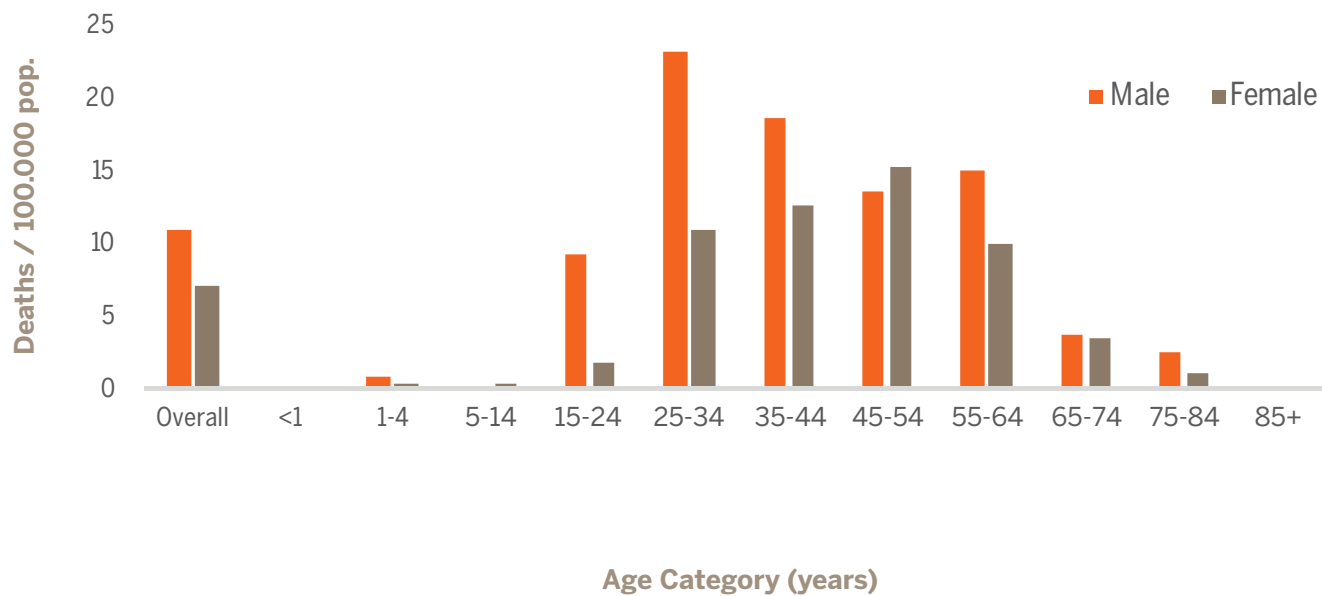
Drug Overdose Deaths (Mortality)

Opioid Overdose Death Rates, by Sex and Drug Type, Georgia, 2016



- Males were 1.6 times more likely to die from any opioid-involved overdose, and 4.5 times more likely to die from a heroin-involved overdose than females

Any Opioid Overdose Death Rates, by Age and Sex, Georgia, 2016



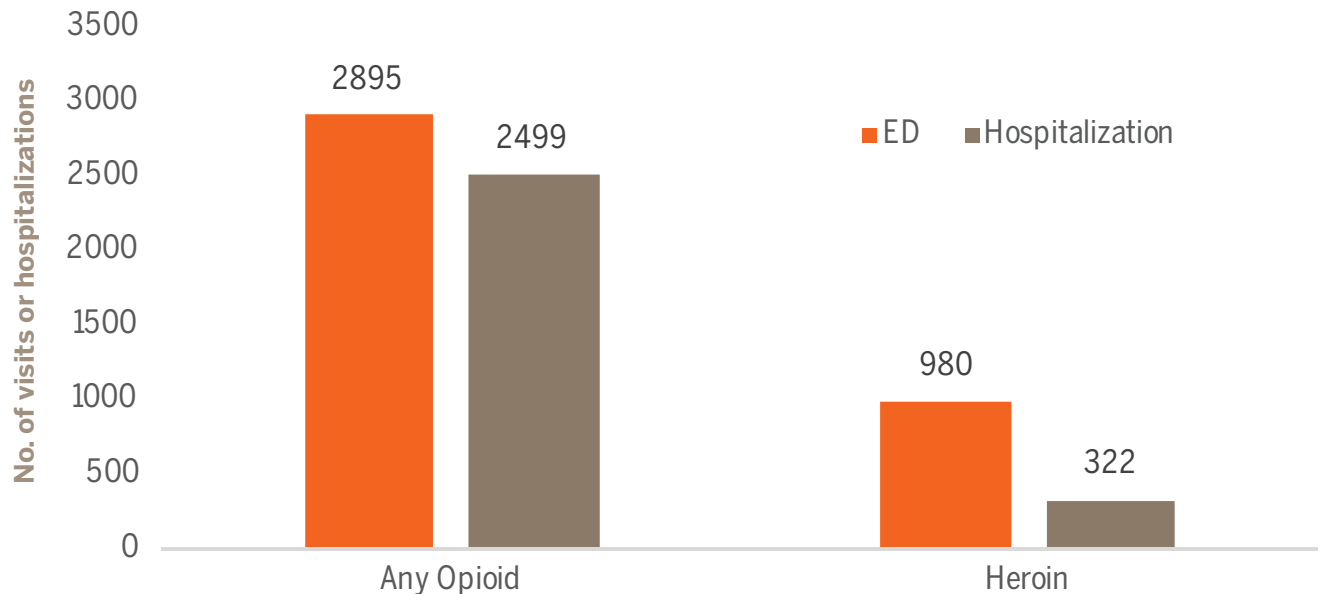
- Males aged 25-34 years died from an opioid-involved overdose more frequently than persons of any other age category, and were 2.1 times more likely to die from an overdose than females of the same age



Drug Overdose Involved Emergency Department Visits and Hospitalizations (Morbidity)

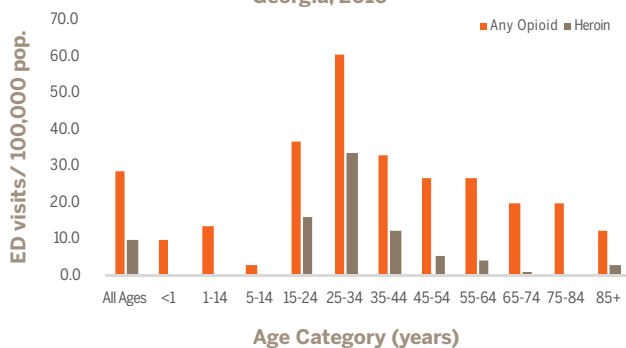
Note: Any Opioid may include prescription or illicit opioids. Categories are not mutually exclusive.

Drug Overdose Involved Emergency Department Visits and Hospitalizations, by Drug Type, Georgia, 2016

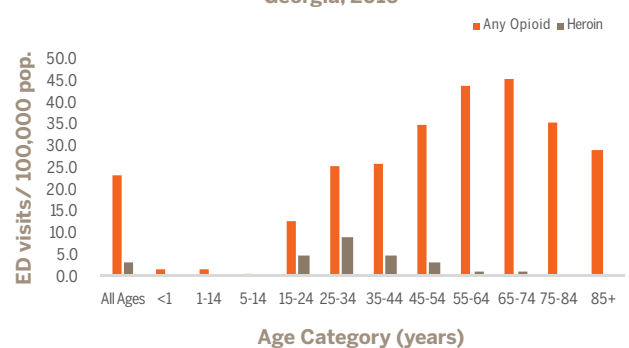


- There was a slightly higher count of ED visits than hospitalizations for any opioid-involved overdoses, however, there were few heroin-involved overdose hospitalizations compared to ED visits

Opioid Overdose ED Visit Rates, by Drug Type and Age, Georgia, 2016



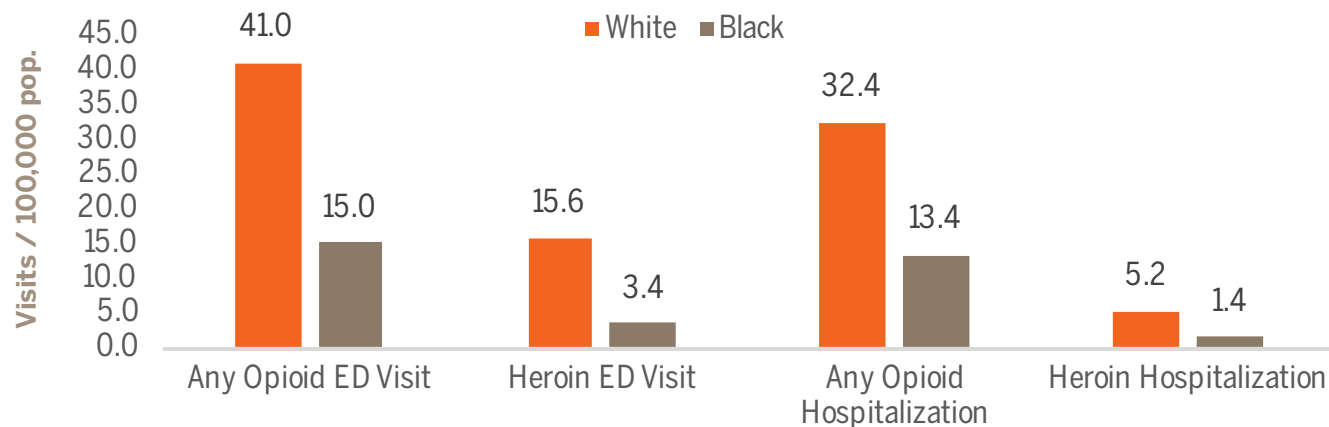
Opioid Overdose Hospitalization Rates by Drug Type and Age, Georgia, 2016



- Persons aged 25-34 years were more likely to visit an ED because of an opioid-involved overdose than persons of other age categories, yet older persons were more frequently hospitalized because of an opioid-involved overdose
- Heroin-involved overdoses occurred most frequently among persons aged 25-34 years, and were less common among young and old persons

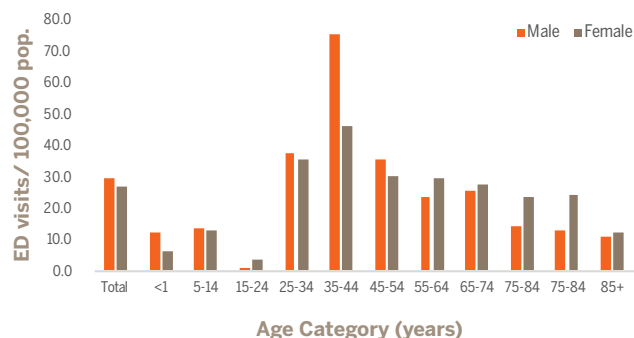


Opioid Overdose Emergency Department Visit and Hospitalization Rates, by Drug Type and Race, Georgia, 2016

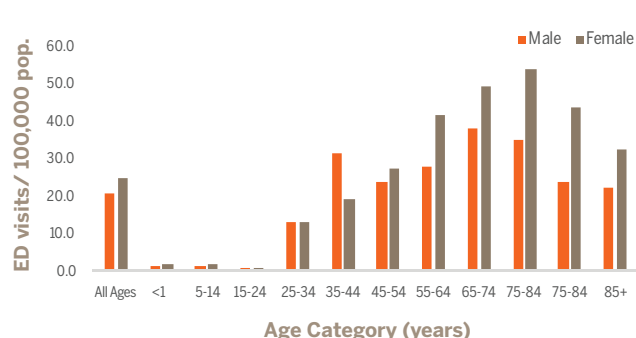


- Whites were 2.7 times more likely to visit an ED for an opioid-involved overdose, and 4.6 times more likely to visit an ED for a heroin-involved overdose than Blacks

Any Opioid Overdose ED Visit Rates, by Sex and Age, Georgia, 2016



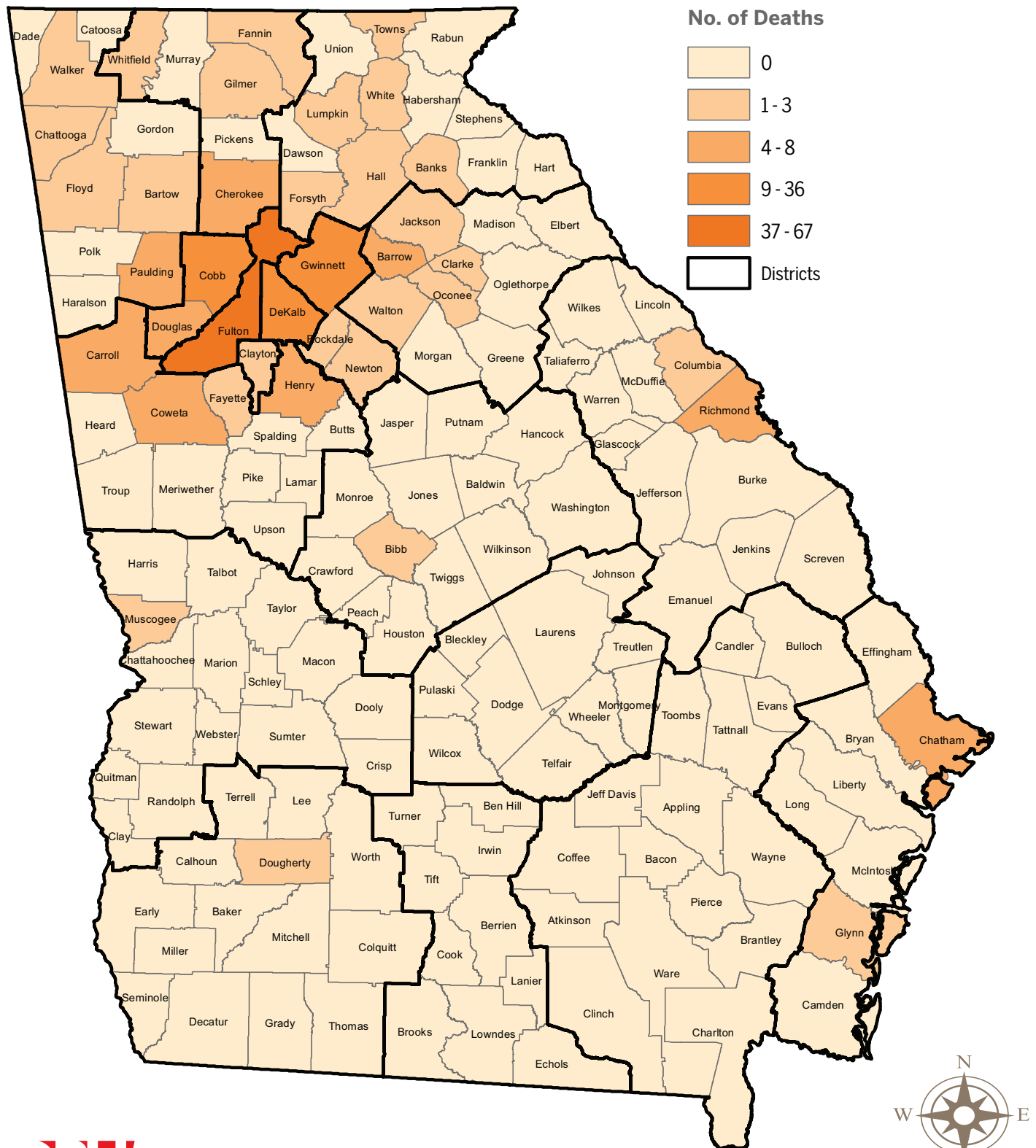
Any Opioid Hospitalization Rates, by Sex and Age, Georgia, 2016



- Males aged 25-34 years visited an ED and/or died from an opioid-involved overdose more frequently than females of the same age category
- Females, particularly those aged 35 years and older, more frequently visited an ED, and were more frequently hospitalized for an opioid-involved overdose than males

HEROIN-INVOLVED OVERDOSES

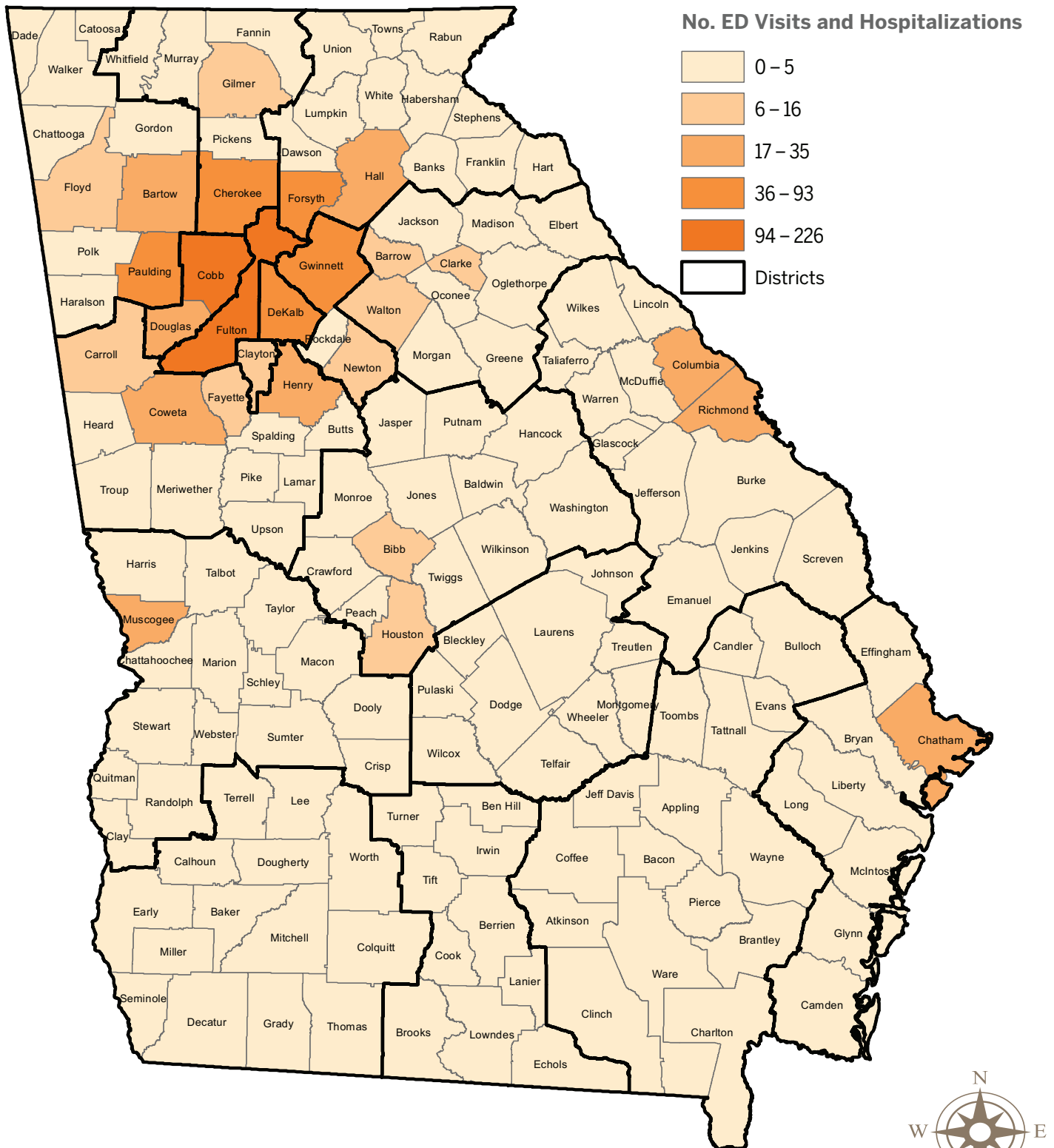
Overdose Deaths, by County, Georgia 2016



NOTE: Rates could not be calculated for most counties due to the low number of heroin-involved overdose deaths, ED visits and hospitalizations. Therefore, the number (not rate) of overdoses are presented in this map.

HEROIN-INVOLVED OVERDOSES

Emergency Department Visits and Hospitalizations, by County, Georgia 2016



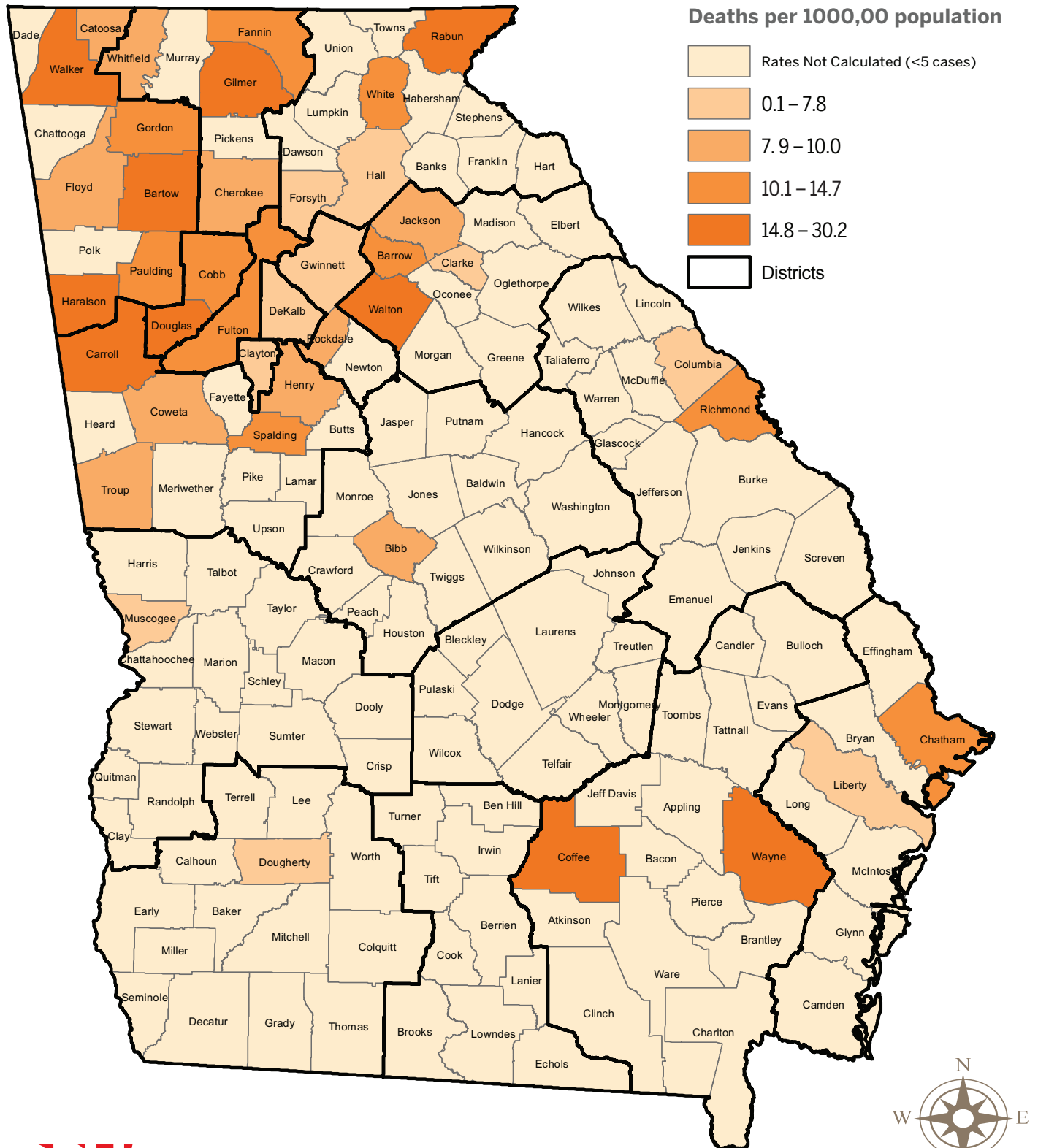
DPH Department of Public Health, Epidemiology
Opioid Misuse, Inappropriate Prescribing and Overdose Program
Drug Overdose Surveillance Unit
Georgia Department of Public Health

Created: May 2018
Source: Department of Public Health
Projection: Georgia Statewide Lambert Conformal Conic

NOTE: Rates could not be calculated for most counties due to the low number of heroin-involved overdose deaths, ED visits and hospitalizations. Therefore, the number (not rate) of overdoses are presented in this map.

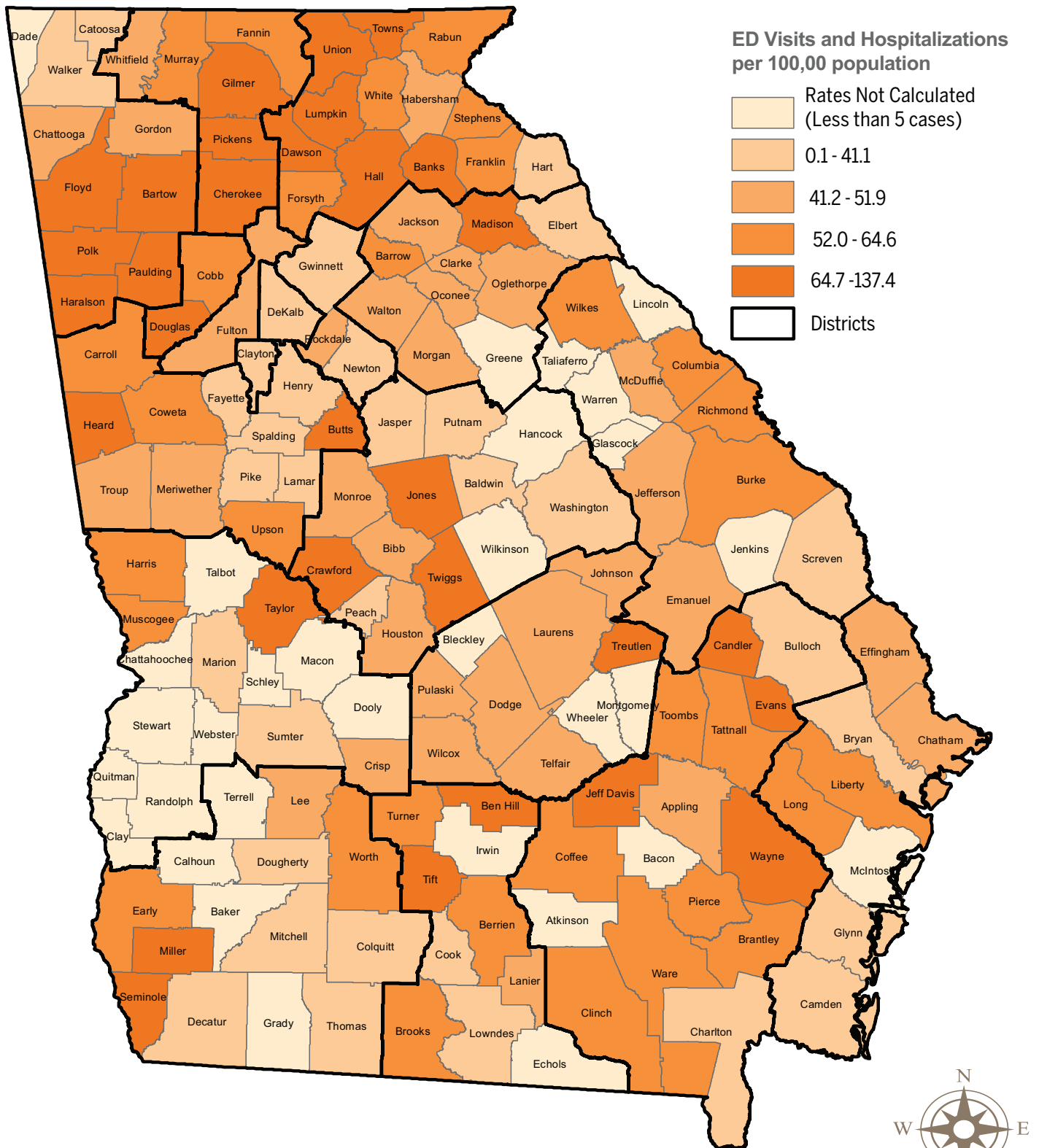
ANY OPIOID-INVOLVED OVERDOSES

Overdose Death Rates, by County, Georgia, 2016



ANY OPIOID-INVOLVED OVERDOSES

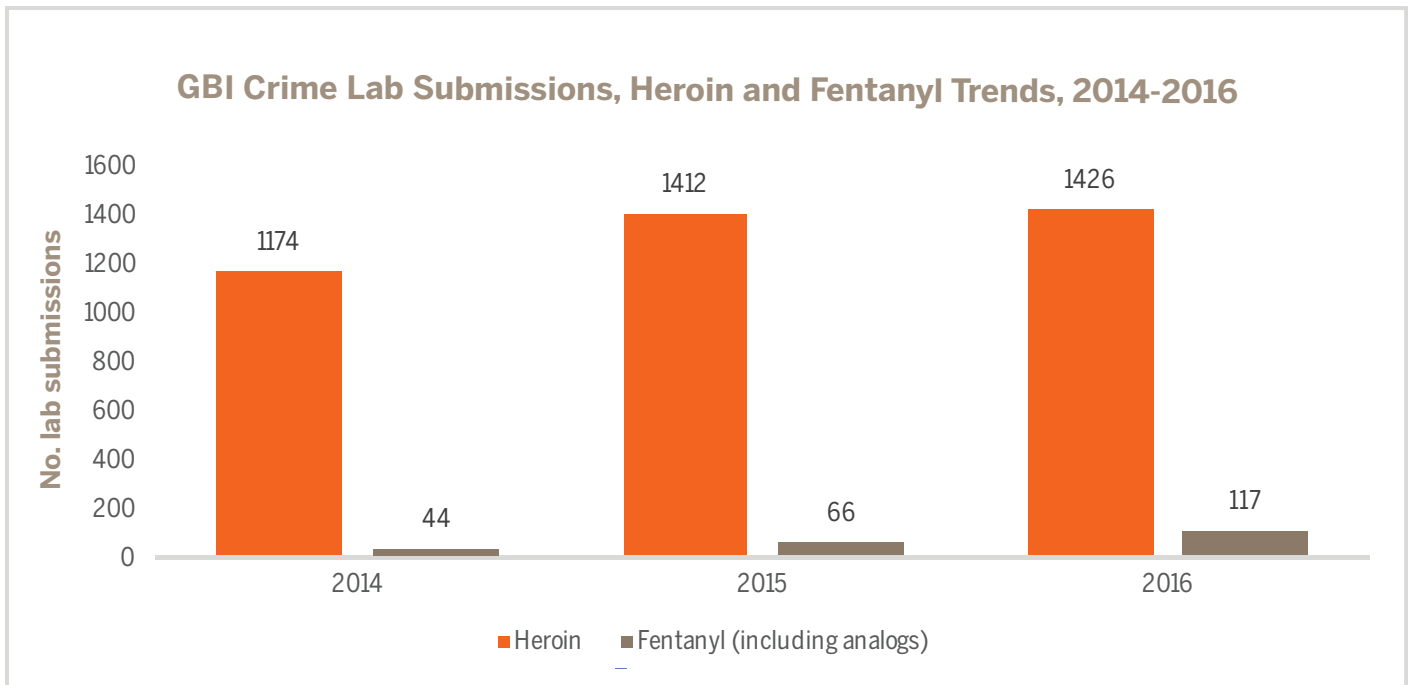
Emergency Department Visits and Hospitalization Rates, by County, Georgia 2016





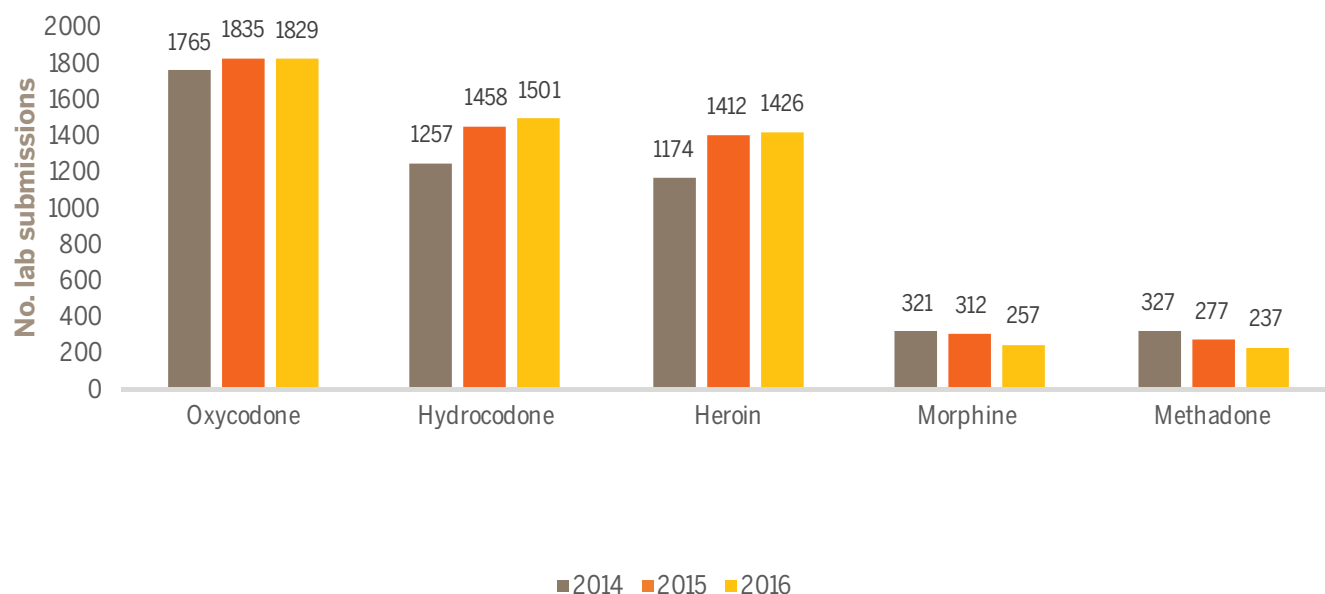
GEORGIA BUREAU OF INVESTIGATION (GBI) CRIME LABORATORY SUBMISSIONS

Crime laboratory submissions are evidence items (pills, powders, etc.) seized by law enforcement and submitted to the **GBI Crime Laboratory** (<https://dofs-gbi.georgia.gov/>) for forensic chemical identification. A case may contain one submission or several. For example, a case may consist of a single plastic bag with powder material inside, or a case may have been a result of a massive search warrant and contain many bags of powder, plus pills and liquids. Each submission that is tested is recorded and tracked. These data represent only items tested during each calendar year; these numbers may change slightly as untested items are completed.

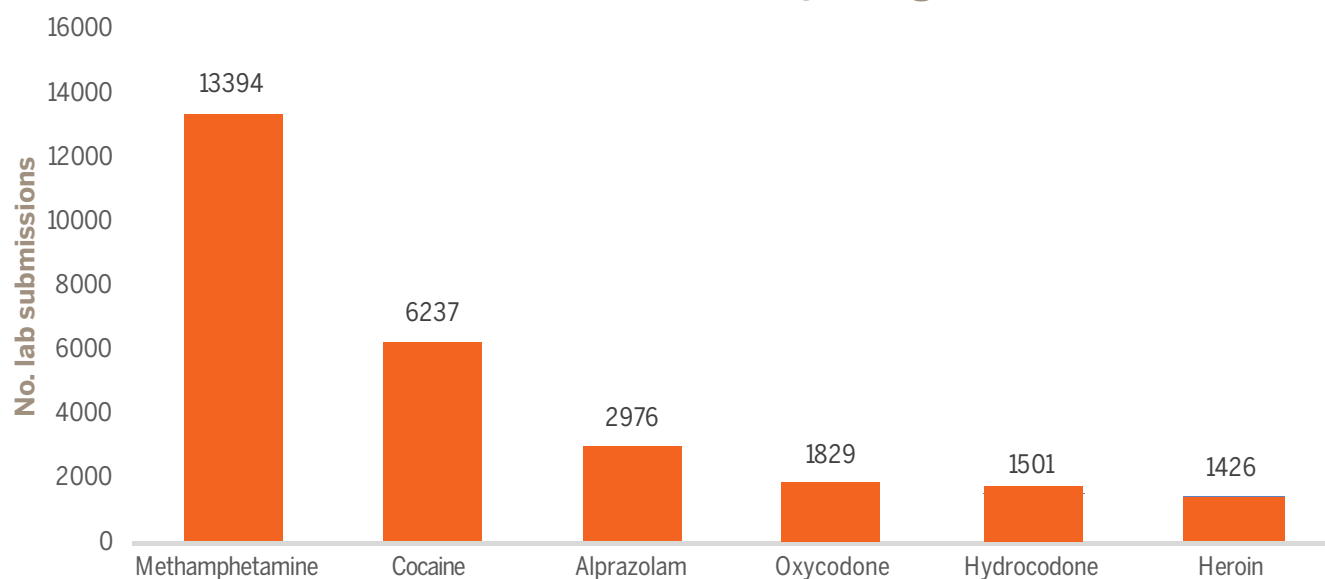


- Heroin and fentanyl submissions to the GBI Crime Laboratory increased by 21.5% and 165.9% respectively from 2014 to 2016

GBI Crime Lab Submissions, Top 5 Opioids, 2014-2016



GBI Crime Lab Submissions, Major Drugs, 2016



- Oxycodone, heroin, and hydrocodone were the opioids most frequently submitted to the GBI Crime Laboratory for identification, and in the top six drugs most commonly submitted. Oxycodone and hydrocodone were also the two most frequently prescribed opioids in Georgia in 2016 and 2017 (see the Georgia 2016-2017 PDMP Report available at <https://dph.georgia.gov/drug-overdose-surveillance-unit>).



Counties with the Highest Number or Rate of Any Opioid-Involved Overdoses — Georgia, 2016 (for emergency department (ED) visits, inpatient hospitalizations, and deaths)

NUMBER, AND AGE-ADJUSTED RATE PER 100,000 POPULATION

Note: rates could not be calculated for some counties due to the low number of any opioid-involved overdose deaths, ED visits and hospitalizations, only counties with >15 opioid-involved overdose deaths or combined ED visits and hospitalizations were included in the top 10 rate ranking

RANK	COUNTY (NUMBER)	RANK	COUNTY (RATE PER 100,000 POPULATION)
ANY OPIOID-INVOLVED OVERDOSE DEATHS		ANY OPIOID-INVOLVED OVERDOSE DEATH RATE (AMONG COUNTIES WITH >15 DEATHS)	
1	FULTON (142)	1	CARROLL (21.2)
2	COBB (107)	2	WALTON (17.3)
3	DEKALB, GWINNETT (57)	3	DOUGLAS (16.3)
5	RICHMOND (32)	4	BARTOW (15.8)
6	CHATHAM (28)	5	RICHMOND (14.7)
7	CARROLL, DOUGLAS, CHEROKEE (23)	6	COBB (13.8)
10	PAULDING, HENRY (21)	7	FULTON (13.1)
		8	PAULDING (12.8)
		9	CHATHAM (10.6)
		10	CHEROKEE (10.0)
ANY OPIOID-INVOLVED OVERDOSE ED VISITS AND HOSPITALIZATIONS		ANY OPIOID-INVOLVED OVERDOSE ED VISIT AND HOSPITALIZATION RATE (AMONG COUNTIES WITH >15 DEATHS)	
1	FULTON (508)	1	JEFF DAVIS (137.4)
2	COBB (474)	2	PAULDING (102.8)
3	GWINNETT (309)	3	GILMER (99.7)
4	DEKALB (220)	4	BARTOW (94.1)
5	CHEROKEE (163)	5	LUMPKIN (89.7)
6	PAULDING (157)	6	DOUGLAS (84.0)
7	HALL (154)	7	MADISON (82.2)
8	CHATHAM (134)	8	POLK (79.7)
9	RICHMOND (124)	9	UNION (75.8)
10	DOUGLAS (120)	10	DAWSON (75.2)

Drug Overdose Deaths (Mortality) — Georgia, 2010–2016

NUMBER, AND AGE-ADJUSTED RATE PER 100,000 POPULATION

Any opioid may include prescription, and illicit opioids, categories are not mutually exclusive 95% confidence intervals (CI) are presented for rates because rates for counts under 15 may be unstable

	ANY DRUG			ANY OPIOID			SYNTHETIC OPIOIDS			HEROIN			FENTANYL		
YEAR	NO.	RATE	95% CI	NO.	RATE	95% CI	NO.	RATE	95% CI	NO.	RATE	95% CI	NO.	RATE	95% CI
2016	1393	13.4	12.7-14.1	928	8.9	8.4-9.6	289	2.8	2.5-3.2	228	2.2	2.0-2.5	225	2.2	1.9-2.5
2015	1373	13.4	12.7-14.1	890	8.7	8.1-9.2	305	3.0	2.7-3.4	250	2.5	2.2-2.7	182	1.8	1.5-2.1
2014	1260	12.4	11.7-13.1	739	7.3	6.7-7.8	189	1.9	1.6-2.1	177	1.8	1.5-2.1	107	1.1	0.9-1.3
2013	1131	11.2	10.5-11.8	536	5.4	4.9-5.8	81	0.8	0.6-0.9	70	0.7	0.5-.09	37	0.4	0.3-0.5
2012	1063	10.7	10.0-11.3	549	5.5	5.0-5.9	65	0.6	0.5-0.8	41	0.4	0.3-0.5	43	0.4	0.3-0.7
2011	1068	10.8	10.1-11.4	430	4.4	3.9-4.8	59	0.6	0.5-0.8	20	0.2	0.1-0.3	N/A	N/A	N/A
2010	1062	10.8	10.1-11.4	426	4.3	3.9-4.8	78	0.8	0.6-1.0	2	N/A	N/A	N/A	N/A	N/A

Opioid Related Overdose Morbidity and Mortality — Georgia, 2016 (for emergency department (ED) visits, inpatient hospitalizations, and deaths)

NUMBER AND RATE PER 100,000 POPULATION (RATE IS AGE-ADJUSTED EXCEPT WHEN AGE CATEGORIES ARE PRESENTED)

Any opioid may include prescription, and illicit opioids, categories are not mutually exclusive 95% confidence intervals (CI) are presented for rates, rates for counts under 15 may be unstable

	ANY OPIOID								
	ED VISITS			HOSPITALIZATIONS			DEATHS		
	NO.	RATE	95% CI	NO.	RATE	95% CI	NO.	RATE	95% CI
TOTAL	2895	27.9	26.9-29.0	2499	23.1	22.2-24.0	928	8.9	8.4-9.5
AGE GROUP									
<1 YEAR	12	9.2	N/A	2	1.5	N/A	0	N/A	N/A
1-4 YEARS	70	13.2		9	1.7		3	N/A	
5 -14 YEARS	31	2.2		7	0.5		1	N/A	
15-24 YEARS	524	36.4		185	12.8		80	5.6	
25-34 YEARS	859	60.4		356	25.0		241	16.9	
35-44 YEARS	447	32.8		350	25.7		210	15.4	
45-54 YEARS	375	26.5		494	34.9		204	14.4	
55-64 YEARS	328	26.5		543	43.9		153	12.4	
65-74 YEARS	160	19.1		380	45.3		30	3.6	
75-84 YEARS	73	19.4		133	35.3		6	1.6	
85+ YEARS	16	11.6		40	29.0		0	N/A	
SEX (AGE GROUP)									
MALE	1480	29.3	27.8-30.8	1077	20.9	19.6-22.1	555	11.1	10.1-11.9
<1 YEAR	8	12.0	N/A	1	1.5	N/A	0	N/A	N/A
1-4 YEARS	37	13.7		4	1.5		2	N/A	
5-14 YEARS	6	0.8		1	0.1		0	N/A	
15-24 YEARS	276	37.5		94	12.8		68	9.2	
25-34 YEARS	530	75.5		220	31.3		163	23.2	
35-44 YEARS	235	35.7		158	24.0		122	18.5	
45-54 YEARS	160	23.2		192	27.8		94	13.6	
55-64 YEARS	149	25.4		224	38.2		88	15.0	
65-74 YEARS	54	14.0		135	35.1		14	3.6	
75-84 YEARS	20	12.5		38	23.8		4	N/A	
85+ YEARS	5	11.1		10	22.2		0	N/A	
FEMALE	1415	26.5		25.1-27.9	1422		24.9	23.6-26.3	
<1 YEAR	4	6.2	N/A	1	1.6	N/A	0	N/A	N/A
1-4 YEARS	33	12.7		5	1.9		1	N/A	
5-14 YEARS	25	3.6		6	0.9		1	N/A	
15-24 YEARS	248	35.2		91	12.9		12	1.7	
25-34 YEARS	329	45.7		136	18.9		78	10.8	
35-44 YEARS	212	30.1		192	27.3		88	12.5	
45-54 YEARS	215	29.6		302	41.5		110	15.1	
55-64 YEARS	179	27.5		319	49.1		65	10.0	
65-74 YEARS	106	23.3		245	53.9		16	3.5	
75-84 YEARS	53	24.4		95	43.7		2	N/A	
85+ YEARS	11	11.8		30	32.3		0	N/A	
RACE									
WHITE	2226	41.0	39.2-42.7	2015	32.4	30.9-33.9	795	14.4	13.4-15.4
BLACK	498	15.0	13.7-16.4	428	13.4	12.1-14.7	113	3.4	2.7-4

OPIOID OVERDOSE SURVEILLANCE

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Georgia Department of Public Health (DPH) • Epidemiology Section
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